Patent claims

1. Enzyme,
characterized in that it has uracil-DNA glycosylase activity and is completely inactivated when heated above about 60°C.

2. Enzyme according to claim 1,
characterized in that it has an amino acid sequence as shown in SEQ.ID.NO: 1 or SEQ.ID.NO : 2 or a functional part thereof.

3. Enzyme according to claim 1 or 2,
characterized in that it is derived from an organism adapted to a cold environment.

4. Enzyme according to any of the preceding claims,
characterized in that it is derived from an eukaryotic organism, preferably from Atlantic cod (*Gadus morhua*).

5. Enzyme according to any of the preceding claims,
characterized in that it comprises a traceable label.

6. DNA sequence,
characterized in that it encodes the enzyme according to any of the claims 1 – 5.

7. DNA sequence,
characterized in that it comprises the nucleotide sequence given in SEQ. ID. NO : 1 and/or SEQ. ID. NO : 2.

8. DNA sequence according to claim 6 or 7,
characterized in that it includes a promoter.

9. DNA sequence according to claim 6, 7 or 8,
characterized in that it is contained in an expression vector, such as a plasmid, a cosmid or a virus.

10. DNA sequence according to any of the claims 6 – 9,
characterized in that it comprises a traceable label.

11. Micro organism,
characterized in that it includes a DNA sequence according to any of the claims 6 – 10.

12. Micro organism according to claim 11,
characterized in that it is a mammalian cell or a bacterium.

13. Micro organism according to claim 11 or 12,
characterized in that it is an *E. coli* strain.

14. Method of preparation of an enzyme according to the claims 1-5,
characterized in that it is prepared by extraction from naturally occurring sources or by recombinantDNA technology, isolation from a resulting mixture and purification to a desired purity.

15. Use of an enzyme according to any of the claims 1 – 5, in monitoring an/or controlling a reaction system multiplying DNA sequences, such as a PCR or LCR.

16. Use of an enzyme according to any of the claims 1 – 5 in carry-over prevention procedures.